

**DEFENSE CONTRACT MANAGEMENT  
COMMAND**



# **The Future of Software Acquisition**

**Software  
Process  
Evaluatio  
ns**

**Lt Col Bob Lang  
DCMC Software Cer  
2 Dec 99**



# Software Processes - Importance

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“Today’s major problems with military software development are not technical problems, but management problems”

Software Engineering Institute (SEI)



# Software Complexity Concerns

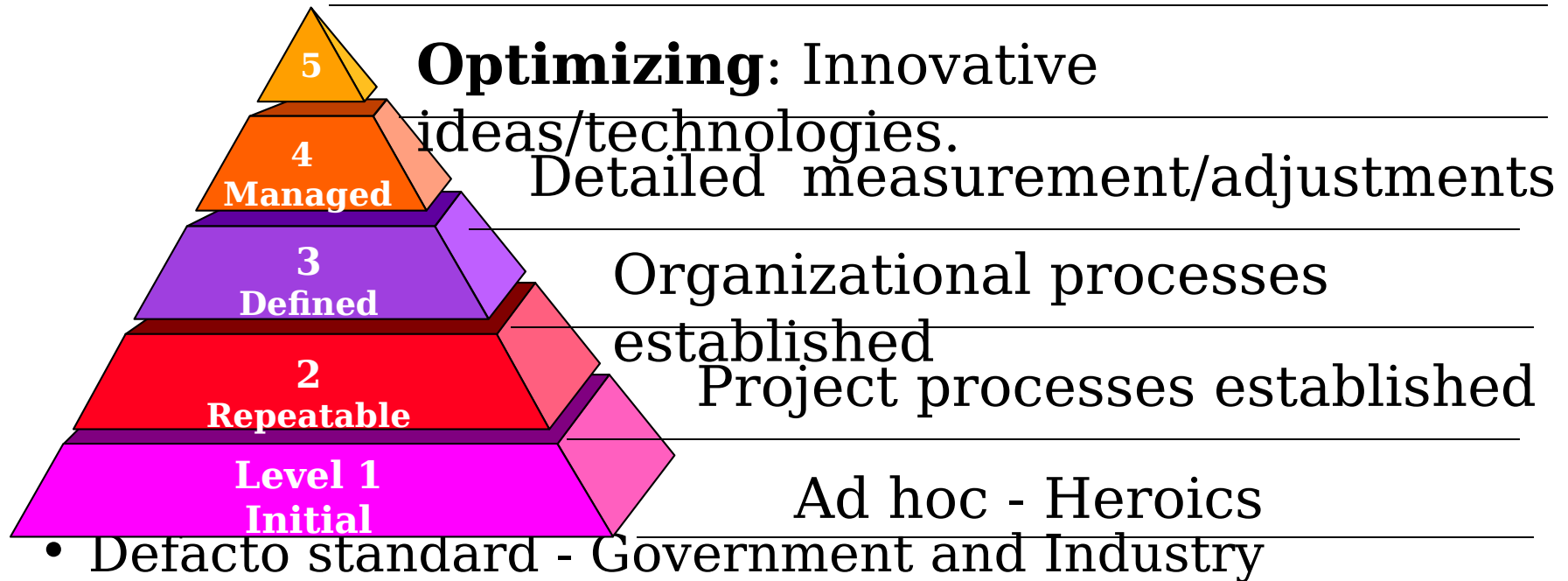
## A Growing Concern

- **In 1995 85% of Software Projects Finished Over Time or Budget**
- **1/2 of Projects Double Cost Estimates**
- **Projects Slip an Average of 36 Months**
- **1/3 of Projects Cancelled**



# SEI Software CMM

- Determines software development **process** maturity





# Software Processes - Importance

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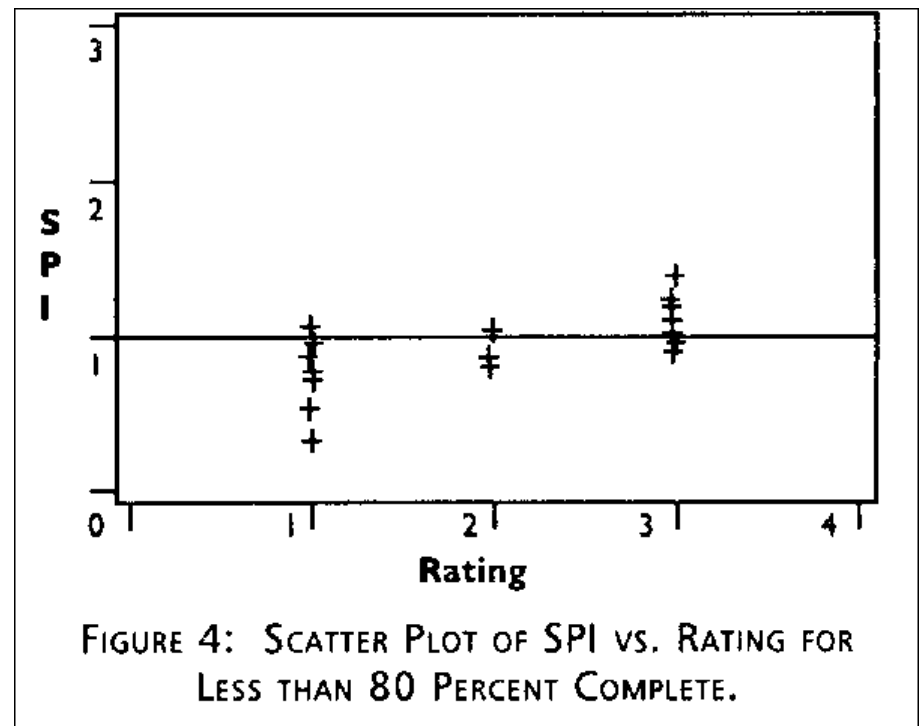
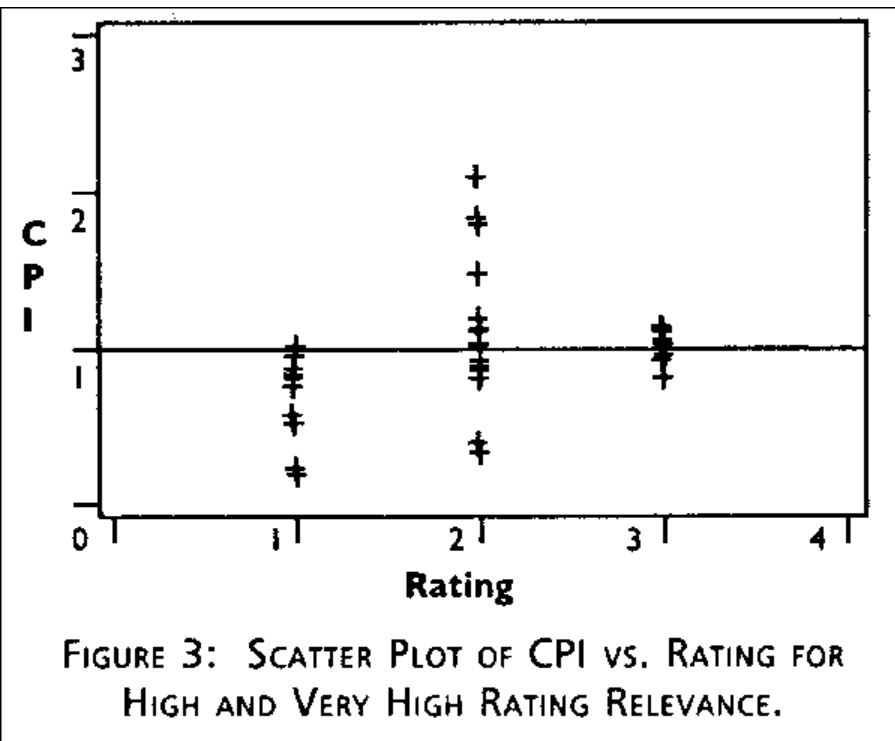
By reaching CMM level III,  
Lockheed Martin Tactical Aircraft  
Systems [over 5 year period];

- Cut software defects 90%
- Reduced software development costs 50%

Aviation Week & Space Technology



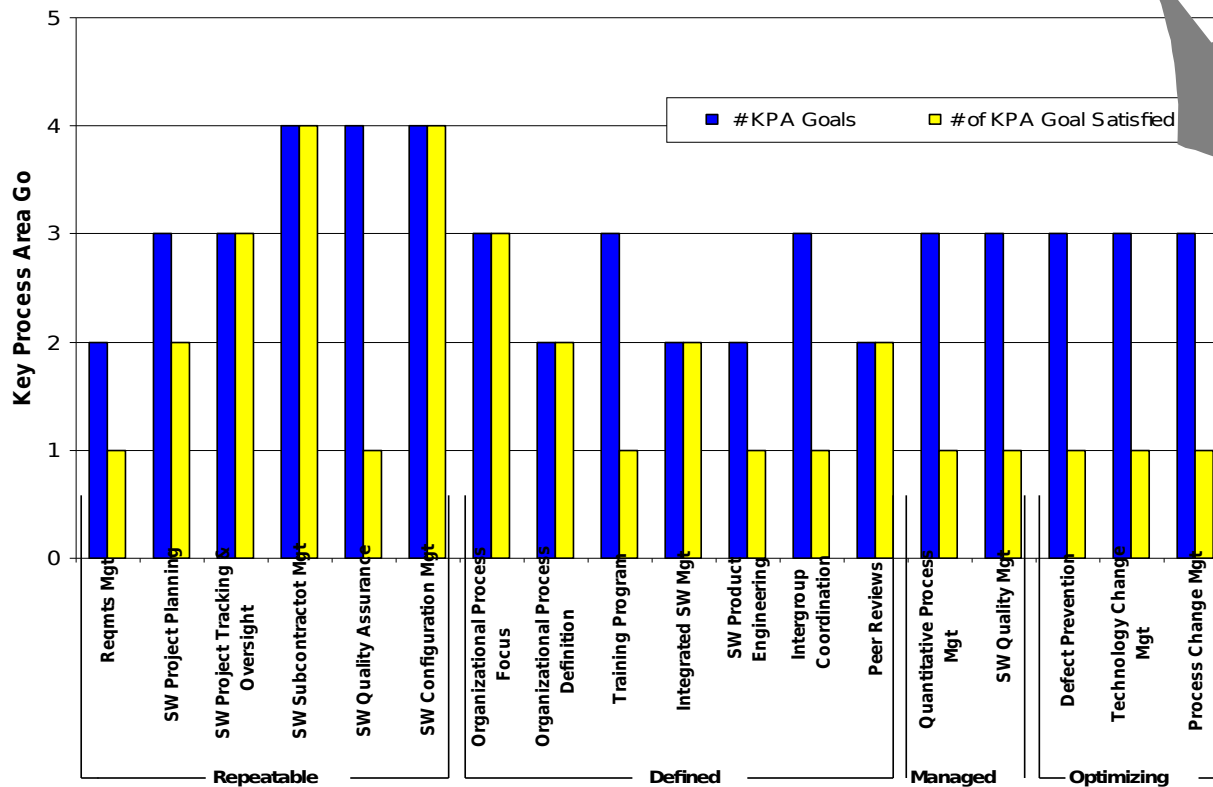
# Process - Performance Relation





# Initiative 1: CMM Based Insight

- Data in most useful format (DoD language)
- Consistent application
- Eliminate/Reduce external process reviews



**DCMCs CMM  
Based Insight**  
- Quantitative  
- Consistent





# Direct NASA Application

- Contractor CMM Level ?
- NASA Concerns
  - Contractor earned value management system lacking
  - NASA Insight
- NASA/DCMC Actions -Jul 99
  - Measurement & Process focus
  - Good interim effort - better insight
- CMM Based Insight - Step beyond
  - DCMC identification/focus on high risk areas (per CMM)
  - NASA/DCMC partnership to reduce risk







# Initiative 1: CMM Based Insight

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## Implementation Schedule

- Development Team - DCMC SEI Affiliates
- Significant Effort
  - Government wide issue (consistent evaluation)
  - New way of doing business
    - Methodology: complete
    - Validation: Oct 99 - Jan 00
    - Verification: Mar- Jun 2000
    - Command-wide start: Jul/Sep 2000



# Summary

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## CMM Based Insight

- FAR Part 42 requires DCMC process evaluations
- Software CMM is the de facto standard
- CMM Based Insight:
  - Continuous Software CMM evaluation
  - DCMC process data in common DoD language
  - Data available for contractor and program offices
- Target deployment: Jul/Sep 2000



# Additional Information

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- DCMC Liaisons to NASA
  - Mr. Stephen Jonas: (281)-483-3216
    - Johnson Space Center, AMES & JPL
  - Ms. Debra Harrison: (256)-544-6659
    - Marshall Space Flight Ctr, Kennedy and Stennis Space Ctrs
- DCMC Software Center
  - NASA Contact: Gary Gumpright: (617)-753-4130
  - Brief backup materials
    - [www.dcmc.hq.dla.mil/dcmc\\_o/ob/swctr/news.htm](http://www.dcmc.hq.dla.mil/dcmc_o/ob/swctr/news.htm)
  - Initiatives
    - [www.dcmc.hq.dla.mil/dcmc\\_o/ob/swctr/initiati.htm](http://www.dcmc.hq.dla.mil/dcmc_o/ob/swctr/initiati.htm)



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# End of Briefing